

Sperm motility depends on :

- Normal spermatogenesis
- Physiologic epididymal sperm maturation
- Prompt ductile transport of spermatozoa
- Normal interrelationship of sperms with
- S.V. & prostatic secretion

Examples of motility enhancer in the semen

Stimulators products of the SV :

potassium, bicarbonate, magnesium,

PGE ,PGF , and prolactin

HOW **Bicarbonate** stimulates sperm motility?

Activates adenylate cyclase leading to increasing of cAMP

Sperm motility inhibitors (SPMI)

Examles of (SPMI) in the semen are :

@From (SV) the SPMI is found in the precursor form of **semenogelin** ,

BUT if degraded into smaller peptides by prostatic proteases shortly after ejaculation this SPMI effect disappeared.

@ Other (SPMI) :

ROS , pus cells , ASA , mycoplasma ,E coli foreign bodies eg. water & soap

Causes of Low Sperm Motility

- Varicocele
- Hormonal imbalance,
- chronic infection .
- Nutrition & Vitamin Deficiency : vitamin C, selenium, zinc, and folate
- Chemotherapy,

- Obesity,
- Smoking, Alcohol drinking,
- Exposure to Heavy metals
- Genetic Factors like Cystic fibrosis, Kartagener syndrome .
- Mental stress

Causes of teratospermia

- unknown in most cases.
- Defective spermatogenesis
- Varicocele
- Hodgkin's disease,
- coeliac disease
- Crohn's
- Infection

Varicocelectomy

Post Operative Improvement:

- Sperm Motility 70%
- Sperm Density 51%
- Sperm Morphology 44%
- Conception Rate 40-50%

The operation spare 50 % of azoospermic men from TESE (due to sperm production) Bilateral varicocelectomy before IVF improve success rate.

Mobile phones and semen

A mobile phone in talk mode in the pocket has: a risk if used for long-term. Exposure of sperms to cellular phone waves lead to decrease sperm motility and viability, increase [ROS](#) level.